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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,940	07/30/2003	Savas Gider	HSJ9-2003-0031US1	9652

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EXAMINER

CAO, ALLEN T

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,940

Applicant(s)

GIDER ET AL.

Examiner

Allen T. Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 6, 9, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macken et al (US. 2004/0075944 A1) in view of Huang et al (US. 6,699,427 B2).

Macken et al discloses a magnetic head 50 having a read head portion (12, 68, 66, 57, 60, 64 and 52) including a insulation base coat layer 52; a write head portion (12, 16, 58, 72, 54, 73, 18', 22) including insulation layers (73 and 18'); and wherein the insulation layer 18' of the write head portion having a negative thermal expansion characteristics (abstract, lines 3-6) as set forth in claims 1, 6, 9 and 15.

Macken et al also discloses that the negative thermal expansion material is selected from either Zirconium tungstate or hafnium tungstate (see [0034]).

Regarding claims 3 and 11, Macken et al discloses that the insulation layer that includes the negative thermal expansion material is a coil insulation layer 18' within the write-head portion.

Macken et al only discloses that the insulation is made of either Zirconium tungstate or hafnium tungstate (see [0034]). Macken et al does not explicitly disclose that the insulation is made from the group consisting of carbon fiber, carbon fiber in an epoxy matrix, carbon fiber in a photoresist matrix, zirconium tungsten in an epoxy

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matrix, zirconium tungsten in a photoresist matrix, hafnium tungsten in an epoxy matrix, and hafnium tungsten in a photoresist matrix as recited in claims 1, 6, 9 and 15.

Huang et al discloses that the insulation can be made of carbon fibers (column 1, lines 19-39); particularly, column 1, lines 36-39.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture the insulation of Macken et al with the carbon fiber as set forth, as taught by Huang et al.

The rationale is as follows: One of ordinary skill in the art would have motivated to make the insulation of Macken et al with the carbon fiber as set forth, as taught by Huang et al to provide an excellent resistance to heat flow, even at high temperatures in order to improve read/write characteristics of the magnetic head. Additionally, Additionally, it has been held to be within the general skill of a worker in the art to select a known material having different chemical bonding structures on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416 (CCPA 1960).

3. Claims 5, 8, 13-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macken et al and Huang et al and further in view of Kudo et al (US. 2003/0193756 A1).

Macken et al as modified by Huang et al do not disclose a heat transfer layer as recited in claims 5, 8, 13-14 and 17.

Kudo et al discloses a slider having a magnetic head including a heat transfer layer 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the magnetic head of Macken et al as modified by Huang et al with a heat transfer layer as set forth, supra as taught by Kudo et al.

The rationale is as follows: One of ordinary skill in the art would have been motivated to provide the magnetic head of Macken et al as modified by Huang et al with a heat transfer layer as set forth, supra as taught by Kudo et al to dissipate the heat generated in the magnetic head/slider and a temperature rise can be inhibited, thus improve the read/write output characteristics of the head.

4. Claims 4, 7, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macken et al as modified by Huang et al and further in view of Santini (US. 6,560,853 B1).

Macken et al as modified by Huang et al disclose only a single layer of coils. Macken et al as modified by Huang et al, however, does not disclose two layers of inductive coils as recited in claims 4, 7, 12 and 16.

Santini discloses a magnetic head having a write head portion including two layers of inductive coils (212, 214) and at least an insulation layer (11-14) disposed between the induction coil layers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify one layer coils of the write head of Macken et al as modified by Huang et al with two layers of coils as set forth, supra as taught by Santini.

The rationale is as follows: One of ordinary skill in the art would have been motivated to to modify one layer coils of the write head of Macken et al as modified by

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Huang et al with two layers of coils as set forth, supra as taught by Santini because two smaller diameter coils can produce the same flux density as a single coil, with less reluctance; wherein, less reluctance permits a faster rise time of the signal which results in a faster data rate, thus provide a better write characteristics of the write head.

Response to Arguments

5. Applicant's arguments filed 10/03/05 have been fully considered but they are not persuasive.

6. Applicant's arguments with respect to claims 1, 3-9 and 11-17 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao
Primary Examiner

AC
December 13, 2005